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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Taro Inoue

NIT-413

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7590

03/28/2007

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.

1800 DIAGONAL ROAD

SUITE 370

ALEXANDRIA, VA 22314

EXAMINER

SCHELL, JOSEPH O

ART UNIT

PAPER NUMBER

2114

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/787,109	Applicant(s) INOUE ET AL.	
	Examiner Joseph Schell	Art Unit 2114	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,6,8 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6 and 9 is/are rejected.
- 7) ☒ Claim(s) 4 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Claims 1, 3-4, 6, 8 and 9 have been examined.

Claims 4 and 8 have been objected to as containing allowable subject matter, yet dependant upon rejected base claims.

Claims 1, 3, 6 and 9 have been rejected.

Response to Arguments

1. Applicant's arguments with respect to claims 1, 3, 4, 6, 8 and 9 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claim 1 line 13 states "wherein when a failure occurs". This is a redundant "wherein" as it has already been stated in line 3 of the claim.

Claim 1 line 14 states "referred by use of said copy management program". This is grammatically incorrect.

3. Claim 4 line 4 states "this copy management information". The use of "this copy" has indefinite antecedent dependence and should be changed to "said" or "the".

4. Claim 9 lines 2-3 state "a host and a storage device subsystem which are connected to each other, are connected through a network". This use of "connected to

each other” is unnecessary because the claim clearly states they are connected through a network.

Claim 9 line 20 is objected to for the same reason as Claim 1 line 14, as described above.

Allowable Subject Matter

5. Claims 4 and 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 4 and 8, within the entirety of each claim, the examiner deems the novel limitation to be that the copy management information stored in each site includes state information about the intra-subsystem copy stored in the storage devices and the second and third site.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, 6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Mann (US Patent Application Publication 2002/0138784).

7. As per claim 1, Mann ('784) discloses a computer system having a first operation sites, a second site having a storage device subsystem and a third operation site that are mutually connected through a network (paragraph 8, three processors each with a storage sub-system), wherein:

each said operation site includes a host and a storage device subsystem and a copy management program that operates in the host (paragraph 8 and 9, and 64, the copy management program checks the HomeBlock to ensure its integrity);

copy management information that includes state information is used by the copy management program to execute remote copy processing from the storage device subsystem of said first operation site to the storage device subsystem of the second site and to the storage device subsystem of said third operation site (paragraph 76, each HomeBlock has a "dirty bit" set when it has failed and needs rebuilding)

said copy management information is stored in said storage device subsystems of each said operation site and said second site (paragraph 8 and 9, each subsystem, being a local RAID-5 within a distributed RAID-5, stores RAID configuration information), and is updated every time a remote copy is executed (paragraph 76, every time a cluster member needs to be rebuilt, all HomeBlocks' "dirty bits" are set);

wherein when a failure occurs in the first said operation site, the copy management information stored in the storage device subsystems is referred by use of said copy management program that operates in a host included in said third operation site to execute copying from a point at which copy processing had progressed before the failure (paragraph 76, a failed cluster member has to rebuild it's data. This is done

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by reading data from the other members of the distributed RAID-5 and XOR'ing the stripes, see paragraph 67).

8. As per claim 3, Mann ('784) discloses a computer system according to Claim 1, wherein:

said storage device subsystems make an inter-subsystem copy of data stored in a storage device between the storage device subsystems of the first operation site and the second site, and the second site and the third operation site (paragraph 44, each sub-system is connected to each other sub-system, and the end of paragraph 51, changes must be replicated), and an intra-subsystem copy of data stored in a storage device in the storage device subsystem of the second site and in a storage device of a storage device subsystem in the third operation site (paragraph 9, each sub-system is a RAID-5).

9. As per claims 6 and 9, these claims recite limitations found in claim 1 and are rejected on the same grounds as claim 1.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Schell whose telephone number is (571) 272-8186. The examiner can normally be reached on Monday through Friday 9AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS



SCOTT BADERMAN
SUPERVISORY PATENT EXAMINER